



## **Perceptions of Company Performance: A study of impression management**

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## **KEY WORDS**

Impression Management, Annual Reports, Chairman's Statement, Graphs

## **ABSTRACT**

*The purpose of this research is to investigate two particular forms of impression management commonly found in corporate annual reports, the distortion of narratives and graph manipulation. Little is known about the potential effects these manipulations have on decisions made by annual report users. A laboratory experiment was performed in which participants were provided with a pack of information for two fictional companies and required to make an investment decision. No significant difference was found between the investment decisions of the participants, confirming previous findings that impression management does not affect corporate annual report users' perceptions of company performance.*

## **1.0 Introduction**

*“The accountancy profession should...take constructive steps to understand the ramifications of narratives and visual techniques that contribute towards perception engineering” (Courtis 2002: 444).*

Many different types of impression management have been identified as occurring in corporate annual reports. However, the potential effect of these manipulations is not known (Stanton et al, 2004). The aim in this study is to identify the effects of two forms of impression management on corporate annual report users’ perceptions of company performance in an experimental setting. The first form of manipulation considered is that of the directness of Chairman’s Statements, a narrative commonly found in corporate annual reports. Directness relates to the placement of information within a narrative. The second manipulation of interest relates to graph measurement distortion which occurs when the change in a graph is proportionately greater than the change in the underlying data, resulting in potential misrepresentation of the data.

This study reports the results of an experiment designed to isolate the effects of these manipulations and identify whether a causal relationship exists between the manipulations and users’ perceptions. Determining the effects of impression management is important because if it does affect stakeholders’ decision making,

especially that of unsophisticated users, it may induce them to make unwise investment decisions and suffer adverse economic consequences.

Past research has identified the presence of impression management in annual reports. However little is known about its effects. Stanton et al (2004) utilised an experimental design to establish whether impression management in the annual reports of a poorly performing company affected users' impressions of company performance. They did not find any evidence that impression management in general, affects users' perceptions. However, their study did not identify or isolate individual forms of impression management.

This study extends the Stanton et al (2004) study by moving from a focus of impression management in general, to examine two particular forms of impression management in order to identify their specific effects. Annual report users have been identified as focusing on particular portions of the annual reports. Given the design of annual reports in sections, it is plausible that ordinary unsophisticated investors may be affected by the different techniques found in the different parts of these reports to differing degrees rather than focusing on only the overall image of the report.

Unsophisticated or ordinary (retail) investors have been identified as relying on the information provided in corporate annual reports for decision making (ASX 2004); in particular they rely heavily on the largely unregulated information presented in the front half of these reports (Bartlett and Chandler 1997). Given the relative inexperience

and limited knowledge of these investors it is plausible that they would be more likely to be misled than more sophisticated users of annual reports such as financial analysts.

Since communication is an important component of an accountant's job, a major responsibility of accountants is to ensure that the recipients of information receive the intended meaning of the message (Courtis 2002). Thus accountants and other parties involved in the preparation of corporate annual reports need to be aware of the effects of the presentation and "understandability" of information, the potential for impression management and possible effects of any such impression management.

The forms of impression management studied in this research are potentially subtle and could go undetected by information users. This increases the potential for unsophisticated users of information in particular, to be unknowingly misled and to make poor investment choices based on false impressions of company performance. Given the role of annual reports as a corporate governance tool it is important to identify any such effects resulting from manipulation of these reports.

A laboratory experiment was conducted using 164 first year university students. The participants in the experiment were provided with a set of information commonly found in annual reports, comprising information on two fictional companies (discussed in more detail below), and requested to make an investment decision. Participants were either given an information pack containing no manipulation, an information pack containing a manipulated narrative, an information pack containing a set of distorted graphs or an information pack containing both manipulations.

The investment choices across the four groups of participants were then analysed to identify any effects of the manipulations on participants' investment choice. No significant differences were found between the investment choice of participants. These results confirm the previous finding of Stanton et al (2004) indicating that when provided with a set of information commonly found in annual reports, users of these reports are not misled by subtle manipulations of this information.

Previous research has largely focused on identifying the presence of impression management in annual reports and attempting to link its presence to the performance of the company under consideration (Clatworthy and Jones 2001, Courtis 2004). This study contributes to the existing literature by giving an indication of the effects of two particular forms of impression management. It also provides some insight into the powers of ordinary investors to utilise information available to them despite attempts to manipulate this information.

The results in this study provide an incentive to refocus and move from the commonly asked questions regarding what forms of impression management are used in annual reports and under which circumstances, to the question of how the presence of these manipulations may or may not affect users of these reports. Once the potential effects of each type of manipulation are identified, the possibility of regulation can be considered for manipulations particularly liable to mislead unsophisticated information users such as ordinary investors.

The structure of this paper is as follows. Section Two contains a review of relevant literature followed by the development of the hypotheses to be tested. Section Three includes a description of, and justification for, the experimental design used. Section Four contains the data analysis results and discussion, and finally Section Five contains concluding comments, limitations and implications for future research.

## **2.0 Literature Review**

Corporate annual reports provide a comprehensive source of data on past corporate achievements and “facilitate the confirmation, revision and formation of readers’ expectations about a company in which they have an interest” (Courtis 1998: 459). However, the usefulness of these reports for decision making will depend on whether they provide an accurate portrayal of a company’s position and the extent to which they are readable and understandable (Courtis 1998). Prior research has established that preparers of corporate annual reports perform impression management within these reports (Lee, 1994).

Impression management involves the manipulation of information to portray a particular image and it is normally aimed at creating a more favourable view of a company’s performance than is warranted (Beattie and Jones 2002). Financial statements commonly found at the end of corporate annual reports are regulated; however the front section of these reports is largely unregulated, rendering it vulnerable to manipulation. It is in this front section of annual reports that impression management is most likely to be found.

### **Impression Management**

The term impression management refers to attempts to assert control over one's image. The concept was traditionally concerned with how words and actions are used by individuals to control their image as a means of personal influence (Stanton et al 2004) and has been applied to organisations to study the content and presentation of information provided to the public. Impression management has been identified as occurring in any setting where an organisation's representatives produce and distribute information in such a way as to affect information users' attitudes, opinions and behaviour (Stanton et al 2004). Impression management is used to improve or maintain one's image and in an organisational sense is related to maintaining organisational legitimacy, ensuring control over an organisation's status, and guaranteeing its continued existence.

Companies are increasingly becoming aware that annual reports can be used for purposes other than meeting their statutory duty to report to shareholders, and that they are also useful for marketing purposes (Clarke 1997). The increasing size of annual reports and the quantity of voluntary disclosures they contain signal the probability that annual reports are being used for impression management purposes (Lee 1994). Thus, annual reports are now seen to be largely a packaged product made by professional designers in order to create, manage and report the particular image desired by corporate management (Lee 1994).



The potential for impression management is strongest in the less regulated front sections of annual reports. Examining the information contained in the front section of these reports is important because ordinary investors have been shown to rely on this information in preference to the data contained in the financial portion of the annual report (Bartlett and Chandler 1997). Because of the documented use and importance of the narratives and graphs contained in this front section of annual reports, and their vulnerability to manipulation, these two types of potential manipulations were chosen for examination in this study.

### **Narratives**

Narratives are an increasingly popular part of the front section of corporate annual reports. However, accounting narratives are unlikely to be impartial, and may be used to provide an image that is more favourable than is warranted (Jones 1996). If narratives and financial statements presented in corporate annual reports convey conflicting messages about financial performance, unsophisticated readers will potentially pay more attention to the words, downplaying the importance of the figures contained in the financial statements. This will result in inappropriate judgements about the financial situation of the company, and poor investment decisions by users of this information (Smith 2004).

The possibility of narratives being misleading increases if the narratives are coupled with graphs that visually appear to support the arguments being made in the narratives. The opportunity for obfuscation, or blurring of the truth through the manipulation of words and graphs contained in the front half of annual reports, combined with the

limited scope for minimising this through regulation, provides an important challenge to regulators.

Narratives are an integral part of modern annual reports (Jones 1996) and an important complement to the financial statements contained in these reports (Courtis 2002). With the trend being one of increasing narrative disclosures (Courtis 1998), and the increased reliance on these narratives by annual report users, the clarity of narratives in annual reports is becoming more important, especially for achieving transparency for non-expert stakeholders such as ordinary investors (Rutherford 2003). It has been argued that the narratives in annual reports are more crucial than the financial statements because these investors are more likely to read and understand the narrative portions than the figures provided (Henderson 2004).

A common narrative found in corporate annual reports is the Chairman's Statement. Narratives in annual reports, especially the Chairman's Statement, seem to attract wider readership than other parts of the annual report (Bartlett and Chandler 1997) and it has been found to be one of the most widely read sections of the annual report (Courtis 1986, Jones 1988, Subramanian et al 1993). The Chairman's Statement is considered an important part of annual reports (Bartlett and Chandler 1997) and research into narratives in annual reports has commonly examined the Chairman's Statement or its equivalent (Clatworthy and Jones 2001, Courtis 1986, Courtis 1998, Jones 1988, Subramanian et al 1993).

Several types of manipulations of narratives, in particular Chairman's Statements, have been identified as occurring in corporate annual reports such as increase in reading difficulty (complex words and sentence structure) or decreased clarity of the text (clear expression and structure). Another potential manipulation may occur through adjustment of the directness of the narrative. The concept of directness relates to placement of information or topics of importance within a narrative. Jameson (2000) discusses the various ways a report structure could be regarded as being direct or indirect. Directness can involve revealing the overall main point towards the beginning of a document; indirectness involves placing smaller details and sub-points first, building up to the main point close to, or at the end (Jameson, 2000).

Any story can be broken into kernels of information; Jameson argued that the larger the gap between the kernels of information that make up the full story, the less direct the narrative will be and the greater the possibility that the effect of the story may be diluted. Jameson (2000) found that annual report narratives of firms with mixed-returns were less direct in structure than those with good returns. Jameson (2000) argues that the level of directness or indirectness combined with the underlying information, and the use of themes, work together to create the annual reports story. Thus, given the same set of information, alteration of the structure of a narrative through directness and the introduction of different themes, allows different stories to be obtained by readers without the reading difficulty or clarity of the text being altered in any obvious way.

The placement of information within the narrative may not be identified by readers as an effort to justify or draw attention away from a company's poor performance. Thus this form of narrative manipulation may allow a writer to obfuscate, or blur the message of poor performance in a subtle manner that will not be identified through evaluation of textual clarity or reading difficulty.

## **Graphs**

Graphs are considered a powerful medium of communication (Beattie and Jones 2002). Graphs provide a visual representation of financial information being capable of rapid consumption, and as a result of this may be replacing other quantitative presentational forms in annual reports (Beattie and Jones 2002). In financial reporting the primary function of graphs is the communication of information. The benefits of graphs are that they attract the users' attention and they rely on spatial intelligence allowing us to use our visual sense to see the data in a direct manner (Beattie and Jones 2002). This results in information being readily retrievable by the reader since memory recall is generally better for visual than for numerical or textual information (Leivian 1980).

Graphs also provide interesting visual images in annual reports that enliven the presentation of the information provided (Beattie and Jones 2002). Graphs provide a relatively low-cost means for companies to make annual reports more interesting and enrich these reports (Frownfelter-Lohrke and Fulkerson 2001). Their presence in annual reports can assist users to obtain information in a timely manner (Frownfelter-Lohrke and Fulkerson 2001). However, a display method that leads to inefficient visual

decoding or biased interpretation of information can prevent important data being detected or lead to a distorted perception of the information being presented (Beattie and Jones 2002).

If care is not taken in the presentation of graphs in annual reports, they, like narratives, can be designed and constructed to portray financial performance more favourably than is warranted (Beattie and Jones 2002). Graphs are considered a part of the impression management process (Beattie and Jones 1999), and any effect of the information contained in graphs on users' perceptions does have implications for the usefulness of graphs to accurately portray information and highlights their potential to mislead users. To assist graph preparers and protect graph users, some guidelines and standards for good graphics have been identified in the literature (Amer 2005, Frownfelter-Lohrke and Fulkerson 2001, Hill and Milner 2003). However, many financial graphs in corporate annual reports have been found not to conform to these standards (Frownfelter-Lohrke and Fulkerson 2001).

Past research has identified four main types of graph manipulation in corporate annual reports; these are selectivity, presentational enhancement, orientation distortion and measurement distortion. Selectivity involves the choice of whether to use graphs, the choice of variable to graph, and which time period to cover (Beattie and Jones 1999). Presentational enhancement is the use of design strategies involving manipulation of components such as background, framework, and labels, to enhance or obscure the underlying data (Beattie and Jones 1999).

Another possible type of graph manipulation identified is orientation distortion; this involves the alteration of the slope parameters (Beattie and Jones, 2002). The slope parameter is the angle of the graph's trend line, and it can be altered by changing either the graph's height or width (or both). The final form of graph manipulation commonly identified in graphs and one of the variables manipulated in this study, is measurement distortion. Measurement distortion occurs when the physical representation of the numbers on the graph is not directly proportionate to the underlying numbers (Beattie and Jones 2002). Previous studies have shown measurement distortion occurs in a considerable portion of graphs used in annual reports (Beattie and Jones 1992, 1992b, 1999).

Measurement distortion is commonly calculated using the Graph Discrepancy Index (GDI). The GDI measures the misrepresentation of the underlying data in graphs by calculating the percentage change depicted in the graph as a ratio of the percentage change in the underlying data (Beattie and Jones 2002). It was developed by Tufte, a graphical researcher, and introduced into accounting literature by Taylor and Anderson in 1986 (Beattie and Jones 2002). Beattie and Jones (2002) studied the effect of measurement distortion (measured using the GDI) at varying levels (5%, 10%, 20%, 40%, and 50%) and found that distortions of 10% or more affect users' perceptions. This has implications for the regulation of graphs in annual reports and thus warrants further investigation.

Misrepresentation of information in graphs can potentially be linked to two causes, either lack of understanding of graphical principles by designers of graphs or a

deliberate attempt by designers or management to manage the perceived image of a company's financial performance. Beattie and Jones (1999) argue that their findings are consistent with the view that financial graphs are used to add legitimacy to a company. They concluded that graphs are an important visual device that can be used to influence users' perceptions and are subject to impression management to enhance perceptions of managerial performance.

As discussed above, many types of impression management have been identified as occurring in corporate annual reports including manipulation of directness of narratives (Jameson, 2000) and graph measurement distortion (Curtis, 2004). Prior research has largely focused on the presence of impression management rather than its effects on decision makers. Although there is some evidence that decision making choices may be affected by distorted graphs combined with numerical information (Arunachalam 2002), there appears to be little conclusive evidence to date indicating that impression management as whole is effective (Stanton et al 2004) or that individual forms, or combinations of forms of impression management, will affect decision makers. This study aims to rectify this lack of knowledge and identify whether manipulation of narrative directness and graph measurement distortion in particular, or the combination of both manipulations, affect users' perceptions of company performance and their resulting decision making choices.

### ***Hypotheses***

As the manipulation of directness of annual report narratives has been found to occur (Jameson 2000), the first hypothesis is used to identify whether this manipulation

affects annual report users' perceptions of company performance. If a less direct narrative does not dilute the the story being told, and annual report users are not affected by the directness of the narrative, then the average investment participants make across the two fictional companies (discussed in detail below) will not differ when the directness of the narrative is decreased. Since there is no evidence in the literature to date to suggest that manipulation of the directness of annual reports narrative will affect users' perceptions of company performance Hypothesis One is used to test the above argument.

**H1:** *There will be no difference in the investment decision made by participants exposed to a less direct narrative and those made by participants exposed to a more direct narrative.*

Manipulation of graphs also occurs in corporate annual report graphs, and distortion of basic financial graphs has been found to affect graph users' perceptions. However the effect of graph distortion has not been identified in an annual report context. Thus the second hypothesis is used to identify whether the manipulation of graphs affects annual report users' perceptions of company performance.

**H2:** *There will be no difference in the investment decision made by participants exposed to a set of distorted graphs and those made by participants exposed to a set of graphs that have not been distorted.*



Together, potentially the two manipulations could also have an effect on a users' perception of corporate performance. A combination of particular impression management techniques may not have a more powerful influence on annual reports users' perception. Thus, the third hypothesis will be used to identify whether a combination of the two manipulations affected participant's perceptions of company performance. This will be of particular interest if it is found that individually they do not significantly affect users' perceptions of company performance. To test this argument Hypothesis Three has been developed.

**H3:** *There will be no difference in the investment decision made by participants exposed to a less direct narrative and a set of distorted graphs and those made by participants exposed to a more direct narrative and a set of graphs that is not distorted.*

### **3.0 Research Design**

A laboratory experiment was chosen as the appropriate research design to test these hypotheses as it facilitates the identification of the effects of exposure to manipulation of the variables of interest on annual report users' perceptions. Laboratory experiments have been used before to study causal relationships in the field of accounting in both management accounting (Schulz 1999), and in the study of accounting disclosures and reporting (Baird and Zelin 2000, Courtis 2004, Milne and Patten 2002, Stanton et al 2004). They are particularly suited to research questions that investigate causal relationships between variables because of the control they provide over confounding

variables. Thus a laboratory experiment was chosen because of its effectiveness in determining whether a causal relationship exists between two variables whilst holding all other factors constant (Schulz 1999).

The dependent variable of interest is the investment choice of participants which is used as a proxy for annual report users' perceptions of company financial performance. The independent variables are the different types of impression management, that is, the manipulation of narrative directness, the graph measurement distortion and the combination of both manipulations. To maximise the internal validity of the study and to allow for identification of any causal effects of the two manipulations, a randomised four group design is used comprising one control group and three treatment groups (see Table 1 below).

Group (a) participants are provided with a neutral set of information (no manipulation), group (b) are given a narrative with the directness manipulated (first independent variable) and a neutral set of graphs, group (c) are given a neutral narrative and a manipulated set of graphs (the second independent variable) and group (d) are given both forms of manipulations (the third independent variable).

**Table 1: Experimental Design – Randomised four group design**

<p><b>(a) Control Group</b></p> <p>No Manipulation</p>	<p><b>(b) Treatment Group (1)</b></p> <p>Manipulation:</p> <p>Directness of Chairman’s Statement</p>
<p><b>(c) Treatment Group (2)</b></p> <p>Manipulation:</p> <p>Graph Distortion</p>	<p><b>(d) Treatment Group (3)</b></p> <p>Manipulation:</p> <p>Directness of Chairman’s Statement</p> <p>Graph Distortion</p>

This between-groups design allows the random assignment of participants to the control and treatment groups. It also assists in isolating any effects of the variables of interest and provides necessary control over potentially confounding variables. This design also allows all participants to be tested at the same time and in the same location, reducing many potential threats to internal validity. In addition, because the information packs given to the participants were only different with regard to the particular manipulation, any potential effect of the manipulation could be isolated controlling for the effects of any of the other characteristics of the information pack provided.

To confirm that the experimental design was effective in removing the potential effects of confounding variables such as participant’s age and culture, participants were required to complete a post-test questionnaire. The post-test questionnaire collected

anonymous information about the participants such as their age, gender, work status, and whether English was their first language. Also, data about the importance of each piece of information provided to the participants, and their investment experience and confidence was collected in the post-test questionnaire.

The participants in this experiment were first year students enrolled in a major accounting unit at a University of Tasmania. Potential criticisms of the use of students as a proxy for the experience and maturity of investors are that they generally come from a narrow age range, they are concentrated at the upper levels of educational background, they are not fully developed emotionally, they may have a higher level of intelligence and cognitive skills and have a generally more unstable lifestyle than the general population (Hoyle et al 2002). Also they may have less incentive to complete the task in an accurate and truthful manner. The students used in this study however are expected to provide a good proxy for the population of interest because of their perceived similarities with unsophisticated user of annual reports - ordinary (retail) investors.

Previous research has shown that ordinary (retail) investors tend to be young to middle age adults of a variety of income ranges. The participants were also mostly young adults with some limited knowledge of accounting terminology gained in the first eight weeks of their course. As a result of this, they are expected to be similar in skills and knowledge to most ordinary (retail) investors. It was also anticipated that a reasonable portion of the participants will be fairly inexperienced investors, with limited

knowledge of investment and business practices, as are a good portion of ordinary (retail) investors.

If the participants in this study are less experienced than ordinary investors this would potentially render them more vulnerable to the effects of impression management (Courtis 2004), making them particularly suited to an experiment such as this one dealing with impression management. If they are not affected by the impression management techniques to which they are exposed then potentially wiser retail investors would not be affected either. Although these students were not making a real life investment decision requiring allocation of their own funds, the participants are still considered to provide a good proxy for ordinary investors given their general naivety and lack of experience.

The random assignment of participants to each group ensures that each participant has an equal chance of being assigned to any experimental condition (independent variable) and assists in counteracting most of the threats to internal validity in this experiment. Accordingly random assignment was adopted in this study. As a result of randomisation, personal differences of participants should on average affect all groups to the same degree, removing any potential biasing effect.

To mimic investors' decision making processes the participants were told that they have \$20,000 to invest and that they need to invest all of the money in one company or divide the investment between the two companies. The task is similar to that used in the

Milne and Patten (2002) experiment which assessed the effects of environmental disclosures on information users' perceptions of company performance.

The value of \$20,000 was chosen as the portion of money available for investment as it was considered that this figure is large enough to be identified as an amount worth investing, but not so large that it might be unfamiliar and overwhelming to the participants. The participants were required to invest all the money in order to force a decision and assist in identification of which company they perceive as performing best based on the information provided, and to record their investment choice on a Task Sheet.

Since investors would make investment choices between two or more companies, the participants were provided with a set of data for two fictitious companies, including a Chairman's Statement, a Five Year Summary and set of four graphs (covering the past five years). The importance of Chairman's Statements and graphs to investors is outlined in Section Two. A Five Year Summary was also included in the information pack, because it is an item that is also commonly found in the front half of corporate annual reports. The information in the Five Year Summaries was consistent with the information contained in the graphs and the stories being told in the Chairman's Statements.

All participants were given the same Five Year Summaries so that this information would not affect the results of the experiment. Participants were given information packs that either contained no manipulation, a manipulated narrative, a distorted graph,

or both manipulations. Through comparison of the average investment choice for each group, the impact of only the particular manipulation would be identified.

The two companies for which the participants are provided information have been given fictitious names: ‘The Health Co.’ and ‘Natural Health’. The names were chosen so they would be fairly neutral and not introduce any bias to the experiment. They are both producers of health products. The two companies have experienced increasing sales over the last five years (year 2001 to 2005) with a slight dip in performance in the third year (2003) and improving performance over the last two years (2004 & 2005). Performance was designed in this way to make it more realistic as company performance indicators may not necessarily follow a linear path.

Although both companies have strong performance indicators that have increased in similar proportions over the past five years, Natural Health is a proportionally larger company (approx 2.5 times the size of The Health Co. based on the financial information provided to participants). The companies were designed to be different sizes to assist in making the scenario more realistic.

### **Manipulation of the Narrative**

Following the discussion of Jameson (2000) in line with the definition of directness she employed, to allow testing of Hypotheses One and Three, both companies’ Chairman’s reports were created with two paragraphs that contained one of each of the two main kernels of information on performance (see Table 2 below). The first kernel of information consists of one paragraph covering the increases in sales experienced by

the company. The second kernel contains information concerning the increasing costs and changes in the industry. The second kernel contained in the Chairman's Statement for Natural Health also contains a sentence covering a recent problem they have experienced with one of their major suppliers. Together the two kernels present the complete story on company performance.

The Chairman's Statements given to the participants are identical except for the Natural Health Chairman's Statement given to groups (b) and (d). In this Chairman's Statement the second kernel of information is placed later in the statement to dilute the effects of the story on users' perceptions of company performance. The Two Kernels of information are contained in Table 2 below.



**Table 2: The Two Kernels:**

	<b>The Health Co.</b>	<b>Natural Health</b>
<b>First Kernel</b>	The last twelve months have seen exciting developments in our company's performance and across the health care industry as a whole. We have experienced strong sales growth, productivity gains and continued increasing returns from investments. Sales have continued to increase across our broad range of products; in particular we are very excited about the overwhelming acceptance of our new health product range that has added considerably to our sales growth.	This last year has been a productive and vibrant time for us. Our innovative range of products has continued to receive increasing support across the market enabling us to maintain the strong sales growth achieved in previous years. This combined with our focus on improved productivity and resulting productivity gains, has allowed us to continually achieve returns exceeding the average for the industry.
<b>Second Kernel</b>	The demand for health products has continued to grow worldwide. The industry has moved towards creating a more risk-averse environment with increased regulation. These changes combined with the development and commercialisation of the industry have created increasing costs and pricing pressures that we have overcome to achieve above average market returns. We expect to be able to maintain these returns in the coming years.	The expansion of the industry has resulted in increased pressures on profit margins. To counteract this we have employed the services of a consultant who has assisted us to reduce costs and maximise productivity, enabling us to continue to achieve superior returns. We are currently experiencing problems with one of our major suppliers and we are in the process of renegotiating supply contracts in order to resolve the situation. We are endeavouring to rectify the problem in a timely manner and whilst future margins may be affected, we hope to minimise any significant impact on future performance.

The Chairman's Statements do contain different stories to keep the information realistic. Although efforts were made to keep the wording and writing style of the two reports as similar as possible, the impact of any difference in the writing styles, or differing information contained in the reports is negated by the experimental design. Since all participants were exposed to both reports, any difference in their investment decision would be related to the manipulation they were exposed to rather than differences in the reports.

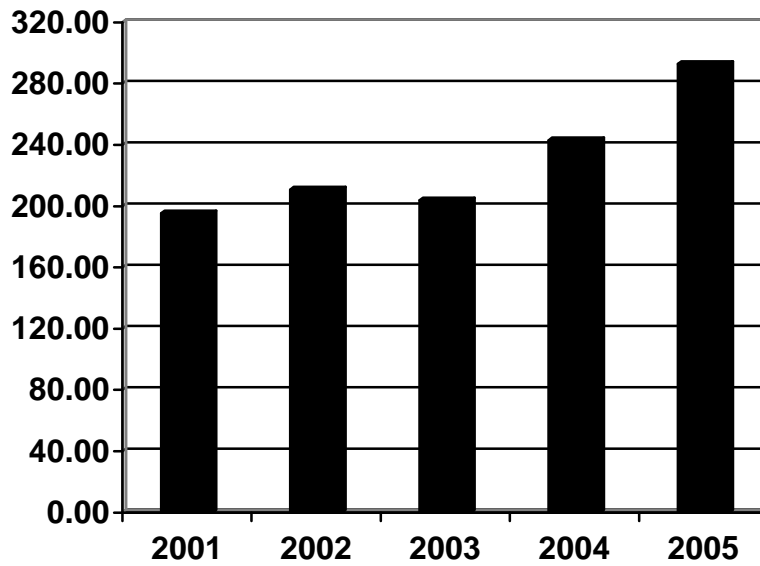
## **Manipulation of the Graphs**

In this experiment the effects of graph manipulation in annual reports by graph measurement distortion is identified through its impact on the investment choices of participants exposed to the distorted graphs. Participants were provided with a set of four graphs of what are considered to be the four key financial variables (KFBs) (Beattie and Jones 1992) and as such would be the most likely target of graph manipulation in annual reports. The four KFBs graphs given to the participants were of Sales, Profit, Earnings Per Share and Dividends Per Share.

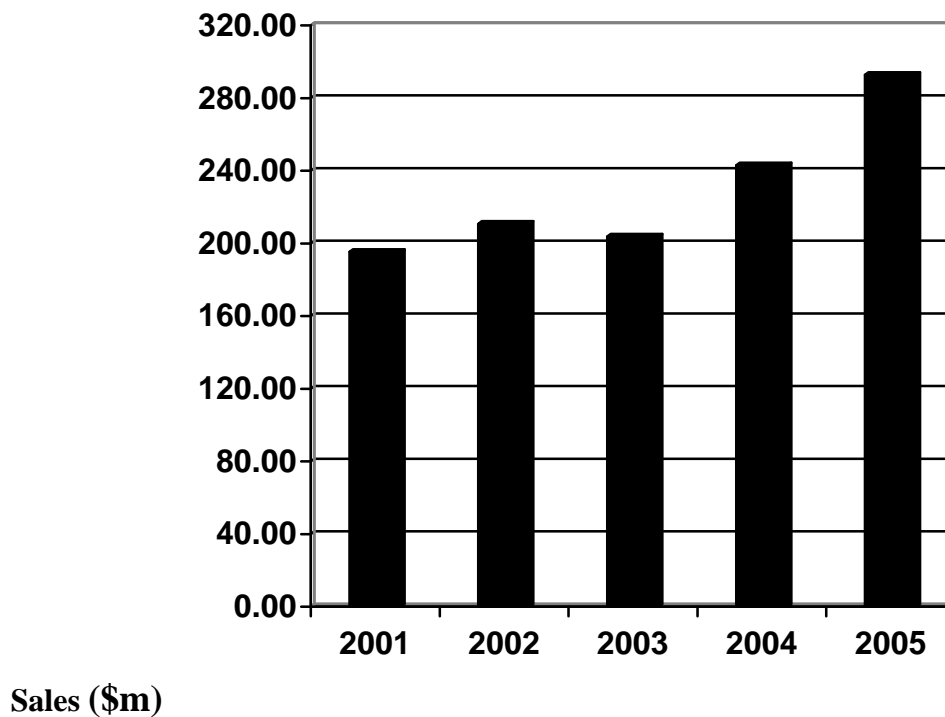
The graphs given to groups (c) and (d) are distorted by 10% calculated using the Graph Distortion Index (GDI). The GDI measures the percentage change in a graph as a ratio of the percentage change in the underlying data. The set of neutral graphs were designed with a GDI of zero. The set of distorted graphs all have a GDI of 10%. A distortion of 10% has been used because this level of distortion has been found to influence the judgements of graph users (Beattie and Jones 2002), and it was felt that any larger distortion may be identified by the participants. Diagram 1 contains the neutral graph of sales given to groups (a) and (b) and Diagram 2 contains the manipulated graph used for groups (c) and (d). The second graph is distorted by 10% calculated using the GDI. Note that the distortion is only just barely visible to the naked eye.

**Diagram 1: Neutral graph**

Sales (\$m)



**Diagram 2: Manipulated graph**



## 4.0 Results and Discussion

Participants in the experiment were allocated to one of the four groups. Descriptive data such as age, gender and first language were compiled for each of these groups. Since participants were randomly assigned to the groups, slightly uneven numbers of participants fell into each group. However, overall the four groups were quite well balanced with close to 40 participants falling into each group. Group (a) contained 40 participants, group (b) 42, group (c) 39 and group (c) 40 participants.

Overall 59.5% of the participants were male, similar to the population of interest - average (retail) investors (ASX 2004). The majority of participants were 20 years old or less, worked between 0 and 20 hours per week, and had English as their first language. Given that these data sets contain nominal data, that is, they consist of numbers allocated to each category arbitrarily, and thus have no numerical meaning; non-parametric Chi-square tests were used to identify any differences between these groups. No significant differences in relation to the demographic factors were found across the groups at a 0.05 significance level.

Only 17% of the participants indicated that they receive annual reports and of those that receive them, more than half indicated that they do read the annual report(s) they receive. This was consistent with the fact that a portion of students are mature age students who have potentially left work to study. Although the majority of participants indicated that they felt confident in their ability to make an investment decision, only about one quarter of the participants indicated that they had at least some investment

experience potentially indicating that they were over confident in their abilities or suggestive of the possibility that they may have manufactured the information provided.

The participants were required to identify how they would split the \$20,000 available for investment between the two companies described above for which they were given the fictitious information (Chairman's Report and graph). The minimum and maximum investment that participants could allocate to each company was \$0 and \$20,000 respectively. Participant's investment choices covered this full range for all of the groups. A summary of the descriptive data generated for the investment choices of participants in each of the four groups is contained in Table 3.

**Table 3 Descriptive Data – Investment Choices**

Group	N	Average Investment		Difference	Standard Deviation
		The Health Co. \$	Natural Health \$		
(a)	40	10,287.50	9712.50	575.00	5865.90
(b)	42	9976.98	10023.02	46.04	6483.33
(c)	39	11371.79	8628.21	2,743.58	6115.89
(d)	40	9925.00	10075.00	150.00	6085.45

Differences in the average investment choice for the two companies for each group were minimal except for group (c). Since the information provided to the participants on the two companies was to a large extent very similar, it was expected that the investment choices for group (a) participants would be fairly evenly spread across the two companies, which it was.

## ***Hypotheses Testing***

The investment figures for the two companies were analysed to identify any investment choice differences across the four groups and to test the three hypotheses. Since tests for normality performed on the figures revealed that the data were not normally distributed, a non-parametric MANOVA test was used to test for differences in the data sets.

Hypothesis One was concerned with identifying whether there is any difference in participants' investment choice when they are provided with a narrative with the directness manipulated. Testing this hypothesis involved testing the average investment for groups (a) and (b) to identify whether there was any significant difference between the two figures. No significant difference was found between the average investments for groups (a) and (b) indicating that the manipulation of the directness of the narratives did not affect the participants' perceptions of the two company's performance to any significant degree.

Hypothesis Two was tested to identify whether any difference in investment choice occurs when information users are provided with a set of distorted graphs. Testing this hypothesis involves testing the average investment for groups (a) and (c) to identify whether there is any significant difference between the investment figures for the two groups. No significant difference was found at the 0.05 significance level. Since there was no significant difference in the two groups in either direction, it is plausible that the participants did not detect the distortion and that it did not affect their decision in any significant manner.

Hypothesis Three aimed to identify whether any difference in investment choice occurs when information users are provided with both the narrative manipulated through directness and a distorted set of graphs. Testing this hypothesis involved testing the average investment for groups (a) and (d) to identify whether there was any significant difference between the two investment figures. Again no significant difference was found.

### ***5.0 Summary and Conclusions***

The purpose of this study was to identify whether two particular impression management techniques affected annual report users' perceptions of company performance. Based on previous literature, three hypotheses were developed that were tested to identify any effects of manipulation of narrative directness and graph measurement distortion on annual report users' perceptions of company performance. An experimental design was used to test these hypotheses with great care taken to ensure that the experimental validity of the study would be strong so that a valid conclusion could be drawn from the results. It was thought that both of these manipulations individually and together may affect participants' perceptions of company performance.

As a result of the analysis of the data obtained in this experiment it can be concluded that no significant difference between the investment choices of participants occurred.

Thus, the manipulations that participants were exposed to did not appear to affect their investment decisions in any significant manner. The groups of participants were found to contain an even spread of personal characteristics and so this is unlikely to have affected the results. Given the care taken in the experimental and task design, the internal validity of this experiment is perceived as being strong.

The potential for the results obtained in this study arising from individual traits of participants or their preference for certain pieces of information, was removed through randomisation. This was confirmed through analysis of the data collected in the post-test questionnaire. Personal traits of the participants, and the use that was made of the various types of the information provided to the participants, did not differ across the groups and thus should not be responsible for results obtained.

One possible reason for the results found in this study is the potential confirming effect of the three types of information provided to participants. When information users have access to a package of information, it may be that they use all the information together to determine company performance and thus may not be misled by individual items within the package. Responses of the participants to the questions in the study regarding the usefulness of the individual pieces of information indicated that the participants did on the whole use all the information provided, and endeavoured to make an informed decision.



## ***Implications of the Study***

These results cast doubt over the potential effects of impression management and confirm previous research that these techniques, individually or as a whole, do not actually affect annual report users' perceptions of company performance to a significant degree (Stanton et al 2004). The results of this study will be applicable to ordinary (retail) investors identified in Chapter Two, but it may not necessarily be appropriate for other users of annual report information such as financial analysts. However, other more sophisticated users of annual report are arguably less likely to be affected by impression management.

This study provides some evidence that unsophisticated users of annual report information may not require further protection through increased regulation of these portions of the annual reports. However, much is still to be discovered about impression management and its effects. This study focused on two types of impression management in their most subtle form. Thus, it is plausible that more severe versions of these manipulations and/or other types of potential impression management may have significant effects on annual report users' perceptions of company performance.

While this research does not provide any conclusive evidence that impression management affects annual report users' perceptions of a company performance it does cast some doubt over its potential to influence investor's decisions. A large portion of prior research has focused on the types of impression management found in documents and why it might be used. This research provides an important contribution to the research, highlighting the possibility that the research needs to focus on areas other than

just the ‘how’ and ‘why’ of impression management. Thus future research is required to identify whether this result is consistent for variations of these manipulations and for other different types of impression management known to exist in corporate annual reports.

### ***Limitations***

Like most research, the research conducted in this study does have some potential limitations. One such limitation is that the type of manipulation of the narrative, for example, the manipulation of the directness of the information provided may have been too subtle. Another potential limitation of this study concerns the level of manipulation of the graphs. Although Beattie and Jones (2002) found that graphs distorted by 10% or more did affect user’s perceptions, it may be that in a more comprehensive company performance setting, when users have other information at their disposal, that this level of distortion is not large enough to affect their perceptions. Thus, a larger percentage distortion would be required to see any effect in this context.

Another potential limitation of the study is that the participants may have acted differently if they were provided larger quantities of information, or if they had access to further information. Their response also may have altered if they had a vested interest in the success of the investments as they would if they were actually investing their own money. This study is also limited in focus in that it does not cover all potential types of impression management. Thus, further research is needed to examine the possible effects of impression management on corporate annual report users.

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## Appendix The Manipulated Chairman's Statement

### Natural Health Chairman's Statement

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This last year has been a productive and vibrant time for us. Our innovative range of products has continued to receive increasing support across the market enabling us to maintain the strong sales growth achieved in previous years. This combined with our focus on improved productivity and resulting productivity gains, has allowed us to continually achieve returns exceeding the average for the industry.

#### **Our Innovations**

To assist us manage the risks that we face in this industry we have set strategies in place so that we can continue to deliver an innovative and successful product range that will sustain both our short and long term growth. We remain fully committed to further future development and based on our consistently strong product innovations we feel we have the capacity to remain a leader in the increasingly competitive healthcare environment.

#### **Our focus**

As a company we remain focused on increased productivity and continue to fund research and development to ensure we remain a successful participant in this industry through this period of considerable change and development.

The expansion of the industry has resulted in increased pressures on profit margins. To counteract this we have employed the services of a consultant who has assisted us to reduce costs and maximise productivity, enabling us to continue to achieve superior returns. We are currently experiencing problems with one of our major suppliers and we are in the process of renegotiating supply contracts in order to resolve the situation. We are endeavouring to rectify the problem in a timely manner and whilst future margins may be affected, we hope to minimise any significant impact on future performance.

#### **Our board**

Over the past year we have refreshed our board with a number of new appointments. I am pleased to welcome Lisa Pine and Jack Bold to the board as independent and non-executive directors bringing with them strong financial skills and commercial experience.

I would like to thank all my board colleagues for their valuable support, and company management and employees for their commitment and outstanding achievements. I would also like to thank shareholders for their continued support and investment. I assure you that your loyalty will continue to provide you with rewards in the future.

Jordan Parson

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